

**PENGARUH *AUTOCLAVING-COOLING* TERHADAP
KARAKTERISTIK PATI RESISTEN TIPE-3 UMBI GANYONG (*Canna
edulis* Ker Gawl.) VARIETAS MERAH DAN PUTIH**

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INTISARI

Ketergantungan Indonesia terhadap impor beras menjadi tantangan bagi ketahanan pangan nasional. Diversifikasi pangan seperti pemanfaatan ganyong menjadi solusi yang potensial untuk mengatasi masalah tersebut. Umbi ganyong kaya akan karbohidrat dan senyawa bioaktif. Namun, tingginya kadar glukosa pada umbi segar membatasi konsumsinya secara langsung. Untuk meningkatkan nilai fungsionalnya, pati ganyong dimodifikasi secara fisik menggunakan metode *autoclaving-cooling* untuk menghasilkan pati resisten tipe-3 yaitu jenis pati yang tidak tercerna di usus halus, tetapi dapat difermentasi di usus besar, sehingga dapat berperan sebagai serat pangan yang mendukung kesehatan pencernaan, dan membantu menjaga stabilitas glukosa darah. Penelitian ini bertujuan mengevaluasi pengaruh *autoclaving-cooling* terhadap karakteristik fisikokimia dari pati resisten tipe-3 umbi ganyong varietas merah dan putih. Desain penelitian menggunakan tiga kelompok yaitu kontrol negatif (pati *native*), kelompok perlakuan, dan kontrol positif (pati resisten komersial). Hasil penelitian ini menunjukkan perlakuan *autoclaving-cooling* menyebabkan perbedaan morfologi yang nyata antara granula pati *native* dan pati resisten tipe-3 (RS3) umbi ganyong varietas merah, dan putih. Perlakuan ini juga menurunkan kadar air, serta meningkatkan kadar pati resisten, dan *water holding capacity* (WHC) pada kedua varietas.

Kata kunci: Diversifikasi, impor, karbohidrat, pati, serat.

**EFFECT OF AUTOCLAVING-COOLING ON THE
CHARACTERISTICS OF TYPE-3 RESISTANT STARCH OF
GANYONG (*Canna edulis* Ker Gawl.) RED AND WHITE VARIETIES**

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ABSTRACT

Indonesia's dependence on rice imports poses a challenge to national food security. Food diversification, such as the utilization of ganyong, offers a potential solution to this problem. Ganyong tubers are rich in carbohydrates and bioactive compounds. However, the high glucose content in fresh tubers limits their direct consumption. To enhance its functional value, ganyong starch is physically modified using the autoclaving-cooling method to produce type-3 resistant starch, a type of starch that is not digested in the small intestine but can be fermented in the large intestine, thereby acting as dietary fiber that supports digestive health and helps maintain blood glucose stability. This study aims to evaluate the effect of autoclaving-cooling on the physicochemical characteristics of type-3 resistant starch from red and white ganyong tubers. The study design employed with three groups: a negative control (native starch), a treatment group, and a positive control (commercial resistant starch). The results of this study indicate that the autoclaving-cooling treatment caused significant morphological differences between the granules of native starch and type-3 resistant starch (RS3) from red and white varieties of ganyong tubers. This treatment also reduced moisture content, increased resistant starch content, and improved water-holding capacity (WHC) in both varieties.

Keywords: Carbohydrate, diversification, fiber, import, starch.